In the Claims

1. (Currently amended) A method for detecting *B. anthracis* in a sample, the method comprising:

a) providing a system comprising:

a layer of immobilized metal particles positioned on a surface substrate, wherein the immobilized metal particles have attached thereto a captured nucleotide sequence probe complementary to a first portion of a nucleotide sequence of the *B. anthracis*; and

b) contacting the sample with the captured nucleotide sequence probe, wherein any *B. anthracis* in the sample having a nucleotide sequence complementary to the captured nucleotide sequence probe binds to the captured nucleotide sequence probe; and

c) contacting any bound *B. anthracis* sequence with a free nucleotide sequence probe, wherein the free nucleotide sequence probe has an affinity for a second portion of the nucleotide sequence of *B. anthracis* and has attached thereto a fluorophore, and wherein binding of the free nucleotide sequence probe to the second portion of *B. anthracis* nucleotide sequence causes the fluorophore to be positioned a sufficient distance from the immobilized metal particles to enhance fluorescence emission when excited by an irradiating source, thereby using such emissions to detect the presence of *B. anthracis*.

2. -3. (Cancelled)

4. (Previously presented) The method according to claim 1, wherein the fluorophore is positioned from about 50 to about 500 Å from the immobilized metal particles after the free nucleotide sequence probe nucleotide sequence contacts the a second portion of the nucleotide sequence of *B. anthracis*.

5. (Currently amended) The method according to claim 1, wherein the metal particles ~~is~~ are silver or gold.

6. (Original) The method according to claim 1, further comprising detecting fluorescence emission with a detection device.

7. (Original) The method according to claim 6, wherein the detection device comprises a spectrometer, luminometer microscope, plate reader, fluorescent scanner, flow cytometer, or any combination thereof.

8. (Previously presented) The method according to claim 4, wherein the captured nucleotide sequence probe is covalently linked to the immobilized metallized particles.

9. (Previously presented) The method according to claim 2, wherein binding of the captured and free nucleotide sequence probe complementary to the first and second portion of the nucleotide sequence of *B. anthracis* is conducted under high stringent hybridization conditions.

10. (Original) The method according to claim 1, wherein the irradiating source uses a 1-photon or 2-photon excitation means.

11. (Cancelled)

12. (Original) The method according to claim 1, wherein the fluorophore comprises a low quantum yield species.

13. (Original) The method according to claim 1, wherein the fluorophore can undergo two-photon excitation.

14. (Original) The method according to claim 1, wherein the fluorophore comprises Rhodamine B, rose bengal or fluorescein isothiocyanate.

15. (Previously presented) The method according to claim 1, wherein the free nucleotide sequence probe further comprises a metal colloid attached thereto and positioned for sandwiching the fluorophore between the metal colloid and immobilized metal particles on the substrate when the second portion of the nucleotide sequence of *B. anthracis* is bound.

16. (Previously presented) An assay method for detecting a target pathogen in a sample, the method comprising:

a) providing a system comprising:

an immobilized metallized layer positioned on a surface substrate, wherein the immobilized metallized layer has attached thereto an immobilized capture nucleotide sequence probe complementary to a known nucleotide sequence of the target pathogen;

b) contacting the sample with the immobilized capture nucleotide sequence probe, wherein the nucleotide sequence of the target pathogen binds to the immobilized capture nucleotide sequence probe;

c) contacting the bound nucleotide sequence of the target pathogen with a free nucleotide sequence probe, wherein the free nucleotide sequence probe is complementary to a known nucleotide sequence of the target pathogen, wherein the free nucleotide sequence probe has attached thereto a fluorophore, wherein the free nucleotide ~~DNA~~ sequence probe further comprises a metal colloid attached thereto and positioned for sandwiching the fluorophore between the metal colloid and immobilized metal particles on the surface substrate when the nucleotide sequence of the target pathogen is bound to the immobilized metal particles, wherein binding of the free nucleotide sequence probe to the nucleotide sequence of the target pathogen causes the fluorophore to be positioned a sufficient distance from the immobilized metallized surface and metal colloid to enhance fluorescence emission when excited by an irradiating source; and

d) identifying the target pathogen by fluorescence emission by irradiating the system with an irradiating source to excite the fluorophore.

17. (Cancelled)

18. (Currently amended) The method according to claim 16, wherein the ~~nucleotide sequence~~ target pathogen is *B. anthracis*.

19. (Previously presented) The method according to claim 16, wherein the fluorophore is positioned from about 50 to about 500 Å from the immobilized metallized surface after the free nucleotide sequence probe contacts the nucleotide sequence of the target pathogen.

20. (Original) The method according to claim 16, wherein the metallized surface comprises metal particles comprising silver or gold.

21. (Original) The method according to claim 16, further comprising detecting fluorescence emission with a detection device.

22. (Original) The method according to claim 21, wherein the detection device comprises a spectrometer, luminometer microscope, plate reader, fluorescent scanner, flow cytometer, or any combination thereof.

23. (Currently amended) The method according to claim 16, wherein binding of the immobilized and free nucleotide sequence complementary to the target pathogen nucleotide sequence is conducted under high stringent hybridization conditions.

24. (Original) The method according to claim 16, wherein the irradiating source uses a 1-photon or 2-photon excitation means.

25. (Original) The method according to claim 16, wherein the fluorophore comprises a low quantum yield species.

26. (Original) The method according to claim 16, wherein the fluorophore can undergo two-photon excitation.

27. (Original) The method according to claim 16, wherein the fluorophore comprises Rhodamine B, rose bengal or fluorescein isothiocyanate.

28. – 56. (Cancelled)